245 Fruit.- Practically all the districts in Transcaucasia are suitable for the cultivation of European and sub-tropical fruits. Oranges and lemons thrive particularly well, and peaches, apricots, plums, apples, pears, and olives are also grown. The plums of Sochi and the oranges of Chavka have a special reputation, and in the Batum district strawberries attain great perfection. Sukhum district and the neighbourhood of Artvin grow the best olives. Melons are intensively cultivated. Fruit-growing is being developed on scientific principles by the peasants and small landowners of Kuban.

246 In 1913 the total area devoted to *hay* was 1,895,000 acres, of which 373,000 were in Terek, 278,000 in Chernomoria, and 227,000 in Baku.

249 252 The collection of *liquorice* root, which grows wild, is an industry of some significance, and before the war the shipments from Batum, chiefly for America, were increasingly large. The manufacture of liquorice paste, however, was much affected by the high price of crude oil, used as fuel by the factories, and there has been no export of it since 1914.

An attempt has been made to grow beet-root for *sugar* in Kuban, but the production was very small; 8,785 acres were under cultivation in 1914, of which 7,380 belonged to a sugar factory at Gulevichi.

249 The *sunflower* is cultivated for the sake of the oil to be obtained from the seeds, which is used as a substitute for linseed oil. The seeds are crushed in local mills and the stalks are used for the manufacture of potash. The crop covers a greater area than any other except the cereals, but is practically confined to Kuban. In 1914 there were 698,000 acres under cultivation, of which 681,500 acres were in Kuban, and the total output was 298,000 tons, of which the Kuban fields gave 292,000 tons, the rest being grown in the neighbouring Province of Stavropol. In that year the production of Ciscaucasia represented seven-eighteenths of the total production of sunflower oil in the Russian Empire. Its share in the total for 1915, however, was less than one-third, a decrease probably due to the necessity of growing more cereals than usual to meet

3: Anonymous U-4 (no date) 1920 RH1 Caucasia RH1

the falling off of supplies from Russia since the out-break of war. Up to 1914 the export of oil was considerable.

There were 2,020 acres of land under *tea* along the Black Sea coast in the Province of Batum and 75 acres in the Government of Kutais in 1914. Of this area, 1,080 acres were in the Imperial Domains, 489 acres were the property of the firm of Popoff Brothers, and the remaining plantations belonged to thirteen villages near Chavka. The revenue from the sale of tea was in 1909 about £26 per acre on the Imperial plantations. As a result of the success achieved on the Imperial Domains, tea-growing was beginning to be taken up as a local industry, and the National Government granted a sum of about £1,500 towards the construction of a factory at Batum, under the management of the Batum Agricultural Society, where locally-grown tea could be cured. Another factory was also to be erected at Ozurgeti, under the management of an instructor from the Imperial plantation at Chavka. The cultivation of tea was proceeding successfully at Ozurgeti in 1914. In that year the plantations near Batum produced about 160 tons of leaf.

Tobacco is grown in all the provinces of Caucasia except Stavropol, where its cultivation has been abandoned since 1911; but the most important centres are in Kuban, Sukhum, and Chernomoria. The Kuban plantations apparently give the heaviest crops,[1] but the tobacco of the best quality grows on the Black Sea coast, especially near Sukhum and Sochi. Of the total Russian output of high quality Turkish tobacco in 1915, 90 per cent. came from Caucasia, and of this 57·6 per cent. originated from Kuban, 21·2 per cent. from Sukhum, and 11·2 per cent. from other districts. In 1914, out of a total cultivated area of 80,500 acres, producing 32,600 tons of tobacco, 29,000 acres, pro-

[1] Judging by the returns for 1914; but the figures vary in different reports, and moreover the yield fluctuates considerably according to the weather, so that the figures for one season are not a safe basis for generalization.

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ducing 15,000 tons, were in Kuban, nearly 33,000 acres, producing 9,700 tons, in Sukhum, and 10,000 acres, yielding 3,600 tons, in Chernomoria. In Transcaucasia tobacco is most cultivated in Tiflis, Batum, and Kutais, but the acreage and output of Zakatali, though actually small, is not inconsiderable in relation to the size of the district.

245 *Wine* is made throughout the country, but though the produce of Ciscaucasia is not inconsiderable in quantity, the grapes are comparatively poor in quality and their juice is thin and acrid. So excellent, on the other hand, are those of Transcaucasia, and in such abundance do they grow, that until the appearance of oïdium, which of late years has necessitated the application of some 4,000 tons of sulphate of copper per annum, thus greatly increasing the cost of production, the peasants were able, by their primitive methods, to make sufficient wine at a cheap rate for their own very liberal consumption. With the introduction of scientific treatment of the vines and of French methods of manufacture the industry should prove lucrative. In a few places modern establishments already existed in 1914, but at present too many kinds of grapes are grown and the plantations are too close together. The district in which the vineyards are most extensive is that of Tiflis; but whereas in 1914 in that Government 81,000 acres yielded only 73,000 tons of grapes, Kutais produced 89,000 tons from 50,000 acres. The localities most celebrated for their wines, however, lie in the Gelendjik district and also in the country round Shemakha and Geokchai, where 22,500 tons of grapes were produced in 1913; in the district between the rivers Kura and Alazan, the ancient Kakhetia, on the borders of Zakatali and Elisavetopol; and at Echmiadzin in the Government of Erivan. In 1914 the total area covered by the vineyards of Caucasia was a little over 300,000 acres, and the yield of grapes 350,000 tons.

241 *Other crops* grown in Caucasia, with their acreage and production in 1914, were the following: potatoes, 234,000 acres, 586,500 tons; spelt, 24,000 acres,

137 pansion of the Roman Empire conquered the whole world--every area in which it can live--is the grapevine. The tradition of all ancient and classical peoples of the East and Europe states that the vine comes from the fabulous land of the Caucaus, and its name is undoubtedly of old Caucasian origin: Latin vinum, Greek oinos (from an older voinos), Arabic wajn, etc., going back to the same prototype as the Armenian and the Georgian ɣvino. Everywhere along the southwestern slopes of the Caucasus, the wild variety of vine can be found living in the forests along with other lianas, forming living garlands around the trees.

137 245 Fruit trees and fruit shrubs of all kinds grow abundantly in Caucasian lands in both wild and cultivated varieties. In all historical epochs, but especially during the last 50 to 75 years, much has been added to the natural riches of the Caucasian flora, since for experimental purposes a great number of foreign plants have been cultivated there. Many, if not most, of them have since become natives, as for example most of the citrus fruits, especially oranges, lemons, and tangerines--a special variety of the latter, the Unshiu tangerine, having been introduced from Japan. In a particularly suitable region of Adjaristan, at Chakva, tea has been raised since the end of the last century, and it seems to have acclimatized very well. However, the area suitable is very small, so that there is no possibility of real tea plantations.

∞∞that there is no possibility of real tea planta-
243tions. Corn (or maize) has been cultivated in large areas south and north of the Great Caucasus for more than 100 years. A more recent experiment has been made with rice, which has been successfully grown in Colchis and the Talysh coastal strip.

As for the cultivated grains, it is barley which climbs highest in the mountainous areas. Thus barley is the only cereal which can be grown in the higher areas of permanent habitation, for instance, in Svanet'ia or Oset'ia. It has been seen in Oset'ian villages and on the slopes of Alagöz, Ararat, and other parts of Armenia, at elevations up to 2500 m. Rye is grown up to 2000 m., i.e., 1000 m. higher than in the Alps. Even corn ripens at an elevation
245 of 900 m. The vine is found in Oset'ian villages (near Kurta) up to 1090 m. The best wines are made from growths found at an elevation of 750 m., and around that line, in the Alazani valley in Kakhet'ia. These vines yield the excellent wines of T'elavi, Napareuli, Tsinandali, and other famous places.

137 As late as the 19th century, after the Russian conquest, senseless deforestation was practiced, often with the help of fire; so that entire areas were laid bare of woods. But in too many instances neither fruit trees, vines, nor cereals were planted afterwards. Only during this century has the century-old practice of deforestation in the Caucasian countries of ancient culture been brought to a halt.

137 part of the Great Caucasus (and not only there but also in the Ukraine and areas on the same latitude); this is also true of tobacco. But rice demands a definite type of humid, sub-tropical or tropical climate with abundant irrigation. Since cotton is somewhat less demanding, it is grown on the southern fringes of the Trans-Caucasian plains, chiefly on the northeastern foothills of the Little Caucasus and in the newly-irrigated southern portion of the Mughan steppe area; other areas include Central Armenia, in the Araxes valley, together with Nakhichevan.

[245] Before the First World War, tea was planted for experimental purposes, after the Ceylonese fashion. This was at Chakva in Adjaristan, 11 km. south of Kobulet'i on the Black Sea coast. On the same estate Japanese Unshiu tangerines and bamboo were also planted. The tea plantation amounted in 1928 to a mere 600 ha, but it may be larger now. In addition to the Chakva plantation, tea has also been planted during the last 25 years in Northwestern Colchis, in the neighborhood of Zugdidi and Ochamchire; also near Zakatali and to the southeast, near the city of Lenkoran in the Talysh area.

To the list of newcomers also belongs the date palm, planted at present in not very great quantities in this same humid sub-tropical Lenkoran area.

000 spades. The chaff is used as cattle-feed.

C. G. 245 In the plains, especially in Kakhetia, the production of wine plays an important part in the rural economy. Numerous sorts of grapes are distinguished under locally varying names; the word for "wine," ghvino, [192] seems to be a loan-word from pre-literary Armenian. In Western Georgia the vines are allowed to climb on trees, mostly poplars and beeches; they grow half wild and untended and may reach an age of 50 years or more before they are rooted out and replaced by young plants. The vines yielding the renowned Kakhetian wines grow low, in carefully tended vineyards, most of which are artificially irrigated. The grapes are gathered in C. G. 273 September-October and poured into wine presses made of stone or wood (sac'nekheli), where the men tread them out by foot. The juice and skins are allowed to ferment together; in the West, in the pressing-trough C. G. [415] itself, and in Kakhetia in large earthern jugs with a pointed bottom (ch'uri), which are sunk into the ground. These jugs are smeared with naphtha on the inside, which gives the wine a peculiar taste, similar to the Greek rezzinato. When the wine is ready, it is stored in similar jugs, up to eight feet high and five feet in diameter. For transportation the wine is scooped out and poured into cattle- or goat-skins also treated with naphtha.

C. G. 245 Fruits (apricots, peaches, cherries, figs, walnuts, almonds, sweet chestnuts,

C. G. 245 [251] pomegranates) are grown in abundance. They are preserved in sugar by a boiling-down process. C. G. 244 Important vegetables are lentils, beans, peas, onions, eggplants, celery, garlic, fennel, mustard and several kinds of cucurbitaceous plants. C. G. 231 The raising of silkworms is common, especially in the West. Beekeeping is widespread; hollwed-out logs are used as beehives; these are covered against the rain with pieces of bark or straw mats. Honey is also gathered from wild beees. C. G. 224 Hunting is of some importance in the highlands (deer, rabbits, fowl); it is traditionally engaged in by herdsmen, who take turns watching the herds. C. G. 226 Fishing is of importance only on the Black Sea coast and on the lower course of the rivers running into it.

C. G. 231 Because of the lack of pasture land, cattle-breeding is less important in the Georgian lowlands than it is in the mountains. The Georgians keep buffaloes, oxen, pigs, horses, donkeys, mules, goats and sheep. The latter usually are of the fat-tail variety, except among the Svan. C. G. 233 221 In summer, the herds are taken to the mountain pastures by herdsmen. The herds are led by a billy goat and are kept together by goats; dogs accompany the herds only as protectors against wolves. To keep the latter at a distance, fires are kept going during the night.

Cattle and sheep breeding have a greater relative importance for the Svan and especially the Pshav and Tush. The latter are predominantly seminomadic herdsmen; the men

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243 Dagestan ASSR is the most important corn producing area. In the belt itself the Cherkess AO, and the North Ossetian ASSR, the corn republic, are the chief producers. In Dagestan, corn is very often cultivated in irrigated areas.

Barley: Almost universal in the Caucasus. In the South Caucasus especially the higher parts of Armenia produce barley. In the North Caucasus the south eastern parts of the Rostov Oblast, and the region in the northern parts of the Krasnodar Kray are important. In Dagestan it is cultivated with dry farming methods.

Millet: Cultivated only in the North Caucasus.

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244 Potatoes: Important areas both in South and North Caucasus. In the South Caucasus the region around Yerevan is the most important. In addition to this important region are the areas around Tbilisi, and Baku. In the North Caucasus the Kabardian ASSR, the North Ossetian ASSR, the southern parts of the Groznyy Oblast, the north-western part of Dagestan, and the northern areas of the Rostov Oblast are important.

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245 Horticulture and fruit-gardening: Truck-gardening is characteristic for suburban areas, or those which are in the vicinity of big health resorts. One should mention as main truck-gardening centers the Baku, Yerevan, Rostov and Pyatigorsk areas. Fruit-gardening is widespread in the whole Caucasus. In the

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245 South Caucasus the Armenian SSR, and the Nakhichevan' ASSR, along the irrigated Aras valley, Kolkhida, Imeretia, northern parts of Kakhetia, in Azerbaijan the High Karabakh AO, and the Kuba region are especially important. In the North Caucasus almost the whole Krasnodar Kray, in the Stavropol' Kray the Kuban, and the upper and middle Kuma valley, the North Ossetian ASSR, and the Groznyy Oblast along the Terek and Sundzha Rivers, Dagestan, and the Akhtuba region of the Astrakhan' Oblast are the chief producers of fruit. One of the characteristic features of Caucasian fruit-gardening is the extensive use of irrigation (Aras, Kura, Kuban, Kuma, Terek, Sundzha, and Akhtuba valleys).

Vineyards: The Caucasus is a famous wine-growing area; soil conditions and climate make it ideal for viniculture. In the South Caucasus the vineyards of Armenia, Nakhichevan', Karabakh, and north Azerbaijan are well known. Yet the most important wine producing area in the South Caucasus is Georgia. Imeretia and Kakhetia are world-famous for their wine. In addition to these places one also finds wine in the Bolnisi area. In the North Caucasus the main wine producing areas are: the littoral parts of the Krasnodar Kray, the area northward from Krasnodar, in the Stavropol' Kray the valley along the Kuma River, the Cherkess AO, the middle Terek valley, the region around Kizlyar, and

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245 the Caspian littoral in Dagestan. In the north, along the northern shores of the Don River, there extend the vineyards of the former Cossacks of Don. In this area Tsimlyanskaya, and Razdorskaya are the most important wine-growing centers. One part of the vineyards, those along the Kuma and Terek Rivers, and those in Dagestan are irrigated.

Citrus: Tangerines, oranges, lemons, grapefruit were introduced into the Caucasus on an industrial scale during the Soviet period. In the South Caucasus the Lenkoran' Lowland, the Georgian Black Sea littoral, the Abkhaz ASSR and the Adzhar ASSR are the citrus-growing areas. The Adzhar Republic is the most important citrus center of the USSR. In the North Caucasus the Black Sea coast of the Krasnodar Kray is the only citrus-growing area.

311 Sugar beets: The main sugar-beet area
249 is the Kuban valley, northward from Krasnodar. In the South Caucasus this crop was recently introduced to Imeretia (Georgian SSR), and to Armenia.

Tobacco: Especially the Turkish kind is cultivated both in the South and in the North Caucasus. In the South Caucasus the tobacco fields are concentrated in three different areas. One is in Azerbaijan between Zakataly and Kuba. The second is in Armenia and in Nakhichevan' ASSR along the Aras River. The third is in Kolkhida and in the Adzhar and

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249 Abkhaz republics. In the Adzhar Republic the fields are located around Batumi and in the higher part of the republic. The Abkhaz area, which produces the best quality, is one of the major tobacco-growing areas of the USSR. The center is Sukhumi. In the North Caucasus the main tobacco-growing areas are in the Krasnodar Kray. The fields there are mostly concentrated in the Adyge AO and along the Black Sea littoral.

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246 Tea: It is one of the recently introduced subtropical plants, and is cultivated mostly in the South Caucasus. The chief tea-growing areas are the Abkhaz and Adzhar republics and Kolkhida. The Adzhar ASSR is the most important tea-growing area in the USSR. In eastern Trans-caucasia an important tea-growing area is the Lowland of Lenkoran'. In addition to these there are some less important tea-growing areas in the interior of Georgia and Azerbaijan as well. In the North Caucasus tea is cultivated only on the Black Sea coast of the Krasnodar Kray, an area adjacent to the tea-growing districts of the Abkhaz Republic.

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248 Cotton: The most important fiber plant under cultivation in the Caucasus. It came originally from Central Asia to the South Caucasus. During the Soviet period its cultivation crossed the 43rd parallel and was pushed as far as 47° N. Though the Caucasian crops is the second largest in the USSR, production

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245 Olives: Olive trees are grown in Azerbaijan around Baku and Sal'yany, in Armenia in the Yerevan basin, and in Dagestan along the sea coast.

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244 Peanuts: The plant grows in two distinct areas in industrial amounts. One is the western steppe region of the Krasnodar Kray, the other is in the dry East Azerbaijan.

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249 Perilla: A plant the oil of which is used especially in the painting industry. The centers of production are the areas north and westwards from Tbilisi, and in the vicinity of Yevlakh (Azerbaijan).

Tung tree: This tree, which comes from China, furnishes an important ingredient of varnishes and lacquers. It is cultivated in Kolkhida, in the Abkhaz ASSR, and in the Lowland of Lenkoran'.

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244 Sunflower: A favorite plant especially in the North Caucasus. It likes the dry and sunny steppes and is produced mostly in the Rostov Oblast, in the Krasnodar Kray (in the steppe region), and in the western parts of the Stavropol' Kray. The sunflower of the Cherkess AO is of excellent quality.

Soybeans: Introduced originally from Manchuria. In the Caucasus soybeans are cultivated in the Kuban valley northwest from Krucnodar, and in the Groznyy Oblast.

Linseed-oil Flax: The product of the plant, linseed oil, is used in the painting industry, in medicine, etc. This flax is

a. 7 Horticulture and Fruit-gardening

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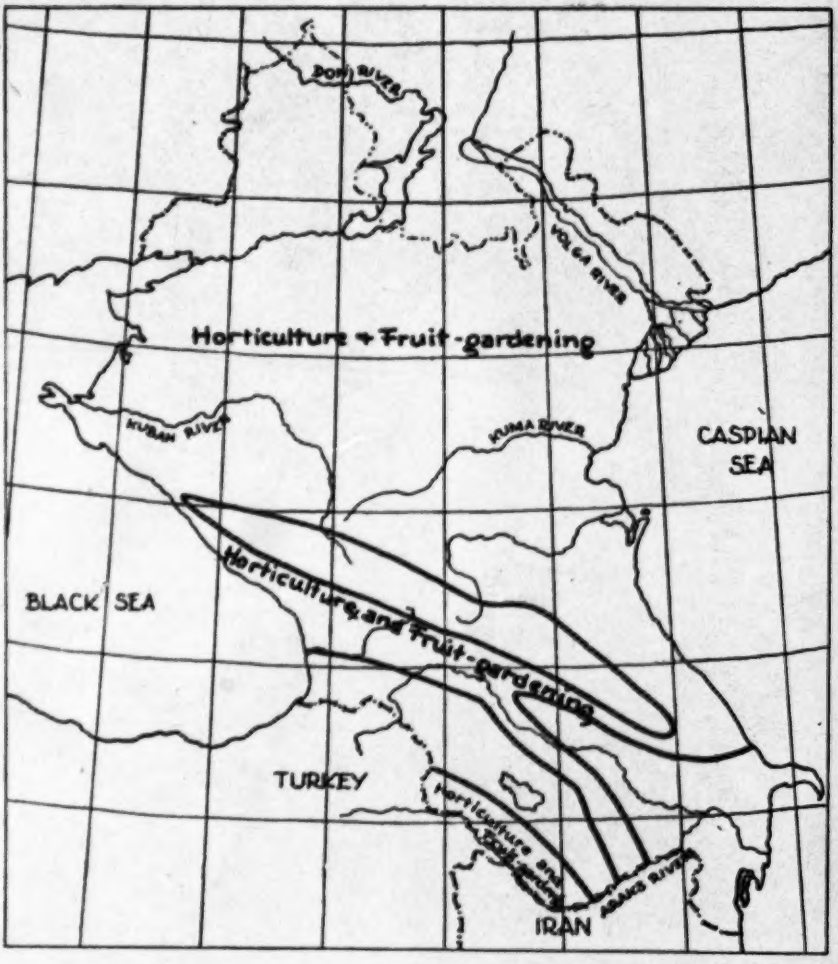

a, 8 Vineyards, Citrus

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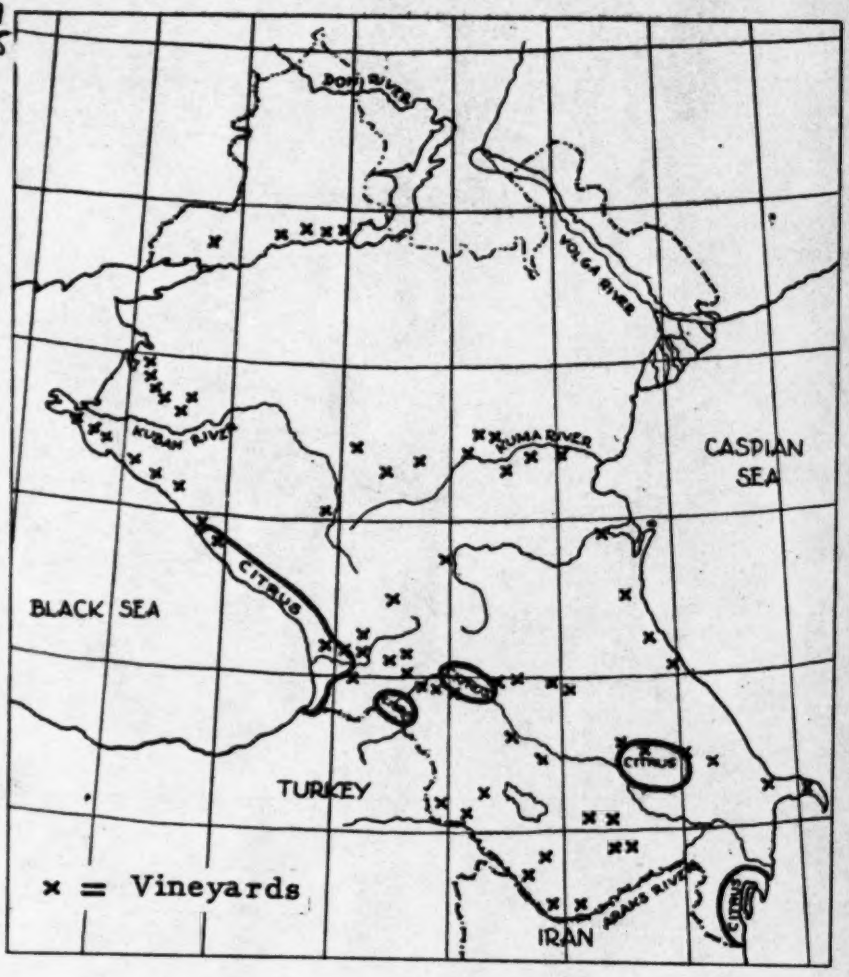

a. 11 Tea

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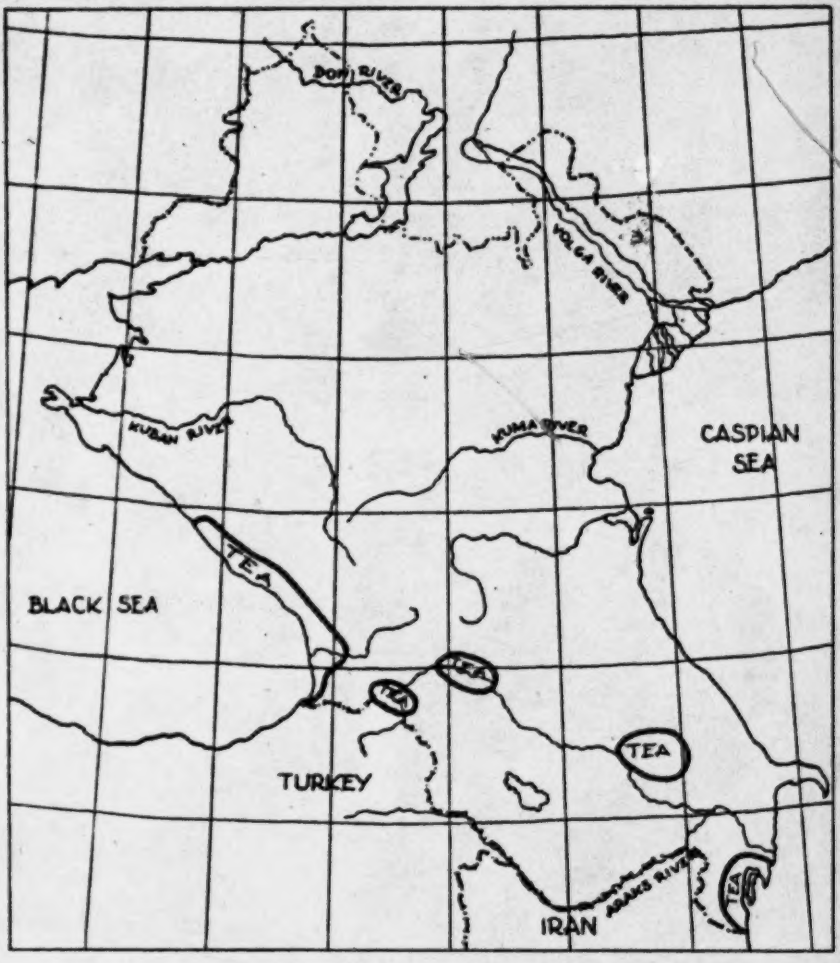

a. 15
Castor Oil Plants, Olive Trees, Peanuts, Perilla, Tung Trees

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